Narrative on Ts. 14 and 15 N., R. 15 W.
Missoula County, Montana

INTRODUCTION

The subject area is located at the south-central edge of the Seeley Lake l:l00,000 scale quadrangle and at the north-central edge of the Missoula East l:100,000 scale quadrangle. It is about 3 miles west of Clearwater Junction where State 200 and State 83 join. The Blackfoot River flows westward across the southern part of T. 14 N. and collects north-flowing and south-flowing streams. The northern one-half features east-flowing drainages which turn southward to the Blackfoot River, east of the subject area. The Garnet Range is south of the Blackfoot River and the Seeley Lake area lies to the north of T. 15 N.

The principal geologic feature noted on these two townships is the Lewis and Clark Line, a northwest-southeast trending fault zone, 8 to 10 miles wide. This fault zone is not a thrust fault but a zone of right-lateral movement. This zone is bounded, on the north, by the St. Mary's fault, and on the south, by the Bold Butte fault.

The north edge of a Tertiary basin crosses the extreme south edge of T. 14 N. The position of the northern edge may be several miles further north than indicated. The glaciated valley of Gold Creek, T. 14 N., and where Rs. 16 and 17 W. join, may have Tertiary sediments on exposure.

No known Tertiary-Cretaceous igneous intrusions occur in the subject area. The Garnet Range plutouns and diabase dikes are 3 miles or more from the area of investigation and should not have created metamorphism from their intrusions.

The Sapphire Thrust Plate's northern-most expression is 5 miles or more south of the subject area. The northern one-half of T. 15 N. is covered with Quaternary glacial gravels. Quaternary Aluvium occurs along the streams and Tertiary sediments occur in the southern part of T. 14 N. All other outcrops are Proterozoic Missoula Group of the Belt Supergroup. Older Proterozaic Piegan Group rocks outcrop, along the Blackfoot River, immediately west and also immediately east of the area of interest.

The still older Ravalli Group rocks are not known to exist in this area but are assumed to the present beneath the Piegan. However, the oldest Belt Super group rocks, the Prichard Group, are not presumed present here, i.e., Ravalli Group in contact upon Archean rocks. The total thickness of the Belt rocks at this location should be at least 9,000 feet (top of Piegan to Archean). No sediments of Cretaceous through Cambrian are expected here, despite reports of oil shows in a water well about 9 miles east in T. 15 N., R. 13 W. Also, about 25 miles southeast of the subject area, 4 miles south of Drummond, is a reported oil seep in Tertiary sediments. Three miles northwest of this oil seep is a 9 square mile area where Nyvatex and TransTexas have drilled eight wells in 8 years. Significant oil and gas shows were noted in these wells but no commercial completions were made. This area may be on the northwest (upthrown) side of a possible northeast-southwest trending fault along Flint Creek which separates it from the oil seep.

Another seep is reported about 4 miles south of Missoula where 25 gravity oil was collected from Belt rocks.

OCCURRENCE POTENTIAL

The occurence potential for oil and gas apparently lies with the Proterozoic rocks and with Tertiary sediments. This potential is believed to be "LOW," at this time, although evidence of Tertiary potential is accumulating from test holes in the Deer Lodge Basin 65 miles southeast and the Big Hole Basin 100 miles south.

Evidence for Proterozoic hydrocarbon occurrence potential is not so well defined. This includes possible source beds in stromatalitic algal and calcareous intervals as well as marine shales. The present state of maturation of these source beds indicates a variability that may be related to locality. The reservoir beds are not strongly documented either.

There is no oil or gas production on the subject townships. The nearest production is about 75 miles to the northeast at Blackleaf Canyon field.

DEVELOPMENT POTENTIAL

The south half of T. 14 N., R. 15 W. is rated as "LOW" development potential. The north edge of the Tertiary basin may get one test in the upcoming 15 years, possibly near the Blackfoot River in sec. 25. The north half of T. 14 N., R. 15 W. and all of T. 15 N., R. 15 W. is rated as "VERY LOW" development potential as the Proterozoic sediments are not expected to receive serious industry attention in the next 15 years in this area.